

# Rod End Bearings

## Link Ball L Type / Link Ball Straight Type

**Rod End Bearings – Link Ball L Type**

RoHS10

**RBLD Right-Hand Thread**  
**RBLDL Left-Hand Thread**

**Material:** Holder: High Strength Zinc Alloy  
\*M4–5 High Strength Aluminum Alloy  
Shank with Ball: 1035 Carbon Steel (20–28 HRC min.)  
Boot: NBR Type Special Synthetic Rubber  
Hardness: Sphere 650 HV min.

kgf=Nx0.101972

Part Number	Holder Part										Shank with Ball							Allowable Slant Angle $\theta$	Strength of Yielding Point Pk (N)	Static Load Capacity Radial Cs (N)	Mass (g)	
	Type	M	D	D <sub>1</sub>	D <sub>2</sub>	L	L <sub>1</sub>	L <sub>2</sub>	M x P	L <sub>3</sub>	W	d <sub>90</sub>	(c)	$\ell$	$\ell_1$	$\ell_2$	$\ell_3$					B
<b>RBLD Right-Hand Thread</b>	4	7.5	9.5	13	24.5	18	8	M4 x 0.7	4	8	4	0	8.1	20	15	7	6	7	7.938	1370	4510	7
	5	9	12	15	34.5	27	15	M5 x 0.8	5	10	5	-0.030	9.2	26.7	21	10	8	8	9.525	2250	6470	12
	6	10	13	16	38	30	16	M6 x 1.0	5	11	6		11.6	32.6	26	11	11	10	11.112	3920	9900	26
	8	12.5	16	19	45.5	36	19	M8 x 1.25	6	14	8	0	13.8	38.6	31	14	12	12	12.7	6570	12500	49
	10	14.5	19	25	55.5	43	23	M10 x 1.5	7	17	10	-0.036	16.2	52.3	43	17	21	14	15.875	11300	18300	90
<b>RBLDL Left-Hand Thread</b>	10A	14.5	19	25	55.5	43	23	M10 x 1.25	7	17	10		16.2	46.3	37	17	15	14	15.875	87		
	12	17.5	22	29	64.5	50	26	M12 x 1.75	8	19	12	0	19.6	59.7	49	19	24	17	19.05	16400	26700	148
	12A	17.5	22	29	64.5	50	26	M12 x 1.25	8	19	12		19.6	52.7	42	17	17	19.05	143			
	14	20	25	34	74	57	30	M14 x 2.0	10	22	14	0	21.9	74.4	62	21.5	28	19	22.225	19800	36400	245
	14A	20	25	34	74	57	30	M14 x 1.5	10	22	14		21.9	68.4	56	22	22	19	22.225	235		
	16	22	27	38	83	64	34	M16 x 2.0	11	24	16	0	25.4	80	66	23.5	29	22	22.225	26900	36400	325
16A	22	27	38	83	64	34	M16 x 1.5	11	24	16		25.4	74	60	23	23	22	22.225	315			

**Rod End Bearings – Link Ball Straight Type**

RoHS10

**RBID Right-Hand Thread**  
**RBIDL Left-Hand Thread**

**Material:** Holder: High Strength Zinc Alloy  
Shank with Ball: 1035 Carbon Steel (20–28 HRC min.)  
Boot: NBR Type Special Synthetic Rubber  
Hardness: Sphere 650 HV min.

kgf=Nx0.101972

Part Number	Holder Part										Shank with Ball							Allowable Slant Angle $\theta$	Strength of Yielding Point Pk (N)	Static Load Capacity Radial Cs (N)		Mass (g)	
	Type	M	D	D <sub>1</sub>	D <sub>2</sub>	L	L <sub>1</sub>	L <sub>2</sub>	M x P	L <sub>3</sub>	W	d <sub>90</sub>	$\ell$	$\ell_1$	$\ell_2$	W <sub>1</sub>	D <sub>3</sub>			D <sub>4</sub>	Ball Dia. $\phi$ mm		Tensile Cs (N)
<b>RBID Right-Hand Thread</b>	5	9	11	17	46	24	12	M5 x 0.8	4	9	5	0	22	11	8	7	9	20	11.112	2840	5690	11400	25
	6	10	13	20	55.2	28	15	M6 x 1.0	5	11	6	-0.030	27.2	12.2	11	8	10	20	12.7	3730	7450	14900	40
	8	12.5	16	24	65	32	16	M8 x 1.25	5	14	8		33	16	12	10	12	24	15.875	5880	11700	23200	75
<b>RBIDL Left-Hand Thread</b>	10	15	19	28	80.5	35	18	M10 x 1.5	6.5	17	10	-0.036	45.5	19.5	21	11	14	30	19.05	8430	16800	33500	123
	10A	15	19	28	74.5	35	18	M10 x 1.25	6.5	17	10		39.5	15	15	11	14	30	19.05	120			
	12	17.5	22	32	91	40	20	M12 x 1.75	6.5	19	12	0	51	21	24	17	19	32	22.225	11400	22800	45600	190
	12A	17.5	22	32	84	40	20	M12 x 1.25	6.5	19	12		44	17	17	17	19	32	22.225	185			
	14	20	25	36	109	45	25	M14 x 2.0	8	22	14	0	64	23.5	22	17	19	38	25.4	14900	29800	59600	280
	14A	20	25	36	103	45	25	M14 x 1.5	8	22	14		58	22	22	17	19	38	25.4	275			
16	22	27	40	118	50	27	M16 x 2.0	8	22	16	-0.043	68	25.5	29	19	22	44	25.4	14900	29800	59600	370	
16A	22	27	40	112	50	27	M16 x 1.5	8	22	16		62	23	23	19	22	44	25.4	360				

**Part Number Example**

Part Number: **RBLD8**  
**RBIDL12A**

Compact Embedded Type is available on our website.

	RBLD / RBIDL	RBID / RBIDL
1. Clearance of Sphere		
Radial Direction Clearance	0.02–0.06	0.03 or Less
Axial Clearance	0.3 or Less	0.1 or Less

- H10 tolerance is recommended for Shank with Ball and the mating hole.
- Yield strength (Pk) shows the strength of the direction shown in the figure below.

**Application Example**

Unit: mm

# Rod End Coupling Rods

## Both Ends Threaded / Both Ends Tapped Type / One End Threaded / One End Tapped Type

When assembling rod end bearings, please use PMC (Fine Thread) alteration as required.

**Rod End Coupling Rods – Both Ends Threaded Type**

RoHS10

Type				Material	Surface Treatment	Accessories: Hex Nut (Right/Left-hand thread 1 pc. for each)	
L Standard	L Configurable	L Configurable Compact	L and F Configurable			Material	Surface Treatment
—	LBRBF	—	LBRBFF	1045 Carbon Steel or Equivalent	Black Oxide	1045 Carbon Steel or Equivalent	Trivalent Bright Chromate
LBRKN	LBRFN	LBRSM	LBRFNF	304 Stainless Steel or Equivalent	Electroless Nickel Plating	304 Stainless Steel or Equivalent	—
SLBRKN	SLBRFN	SLBRS	SLBRFNF	304 Stainless Steel or Equivalent	—	304 Stainless Steel or Equivalent	—

**L Fixed / L Configurable**

**L and F Configurable**

**L Configurable Compact**

**L Configurable Compact Type has an identification hole on the end surface of its left-hand thread.**

### Both Ends Threaded, L Standard Ⓢ Included Nut: JIS Grade I

Part Number	Type	M (Coarse)	L Selection								L <sub>1</sub>	$\ell$	B	(C)	
			3	4	5	6	8	10	11	12					
<b>LBRKN</b> <b>SLBRKN</b>	3	3	40	50	60	70	80	90	100	110	120	15	14	6	6.9
	4	4	50	60	70	80	90	100	110	120	20	18	7	8.1	
	5	5	60	70	80	90	100	110	120	25	23	8	9.2		
	6	6	70	80	90	100	110	120	30	28	10	11.5			
8	8	80	90	100	110	120	40	37	13	15.0					

### Both Ends Threaded, L Configurable Type

Part Number	Type	M (Coarse Thread)	L 1 mm Inc.	L <sub>1</sub>	$\ell$	B	(C)
<b>LBRBF</b> <b>LBRFN</b> <b>SLBRFN</b>	4	35–49	12	10	7	8.1	
	5	40–59	13	11	8	9.2	
	6	50–69	17	15	10	11.5	
	8	60–89	23	20	13	15.0	
		90–100	40	37	13	15.0	
	10	70–109	28	25	17	19.6	
		110–100	50	47	17	19.6	
		80–129	33	30	19	21.9	
		130–100	60	56	19	21.9	
		14	130–100	60	56	21	24.0
		16	170–100	80	76	24	27.7
	18	170–100	80	76	27	31.2	
20	170–100	80	76	30	34.6		
22	170–100	80	76	32	36.9		

Ⓢ SLBRFN is available for M3–18 only.

### Both Ends Threaded, L & F Configurable

Part Number	Type	M (Coarse)	L 1 mm Inc.	F 1 mm Inc.	A	B	(C)	E min
<b>L &amp; F Configurable</b> <b>LBRBFF</b> <b>LBRFNF</b> <b>SLBRFNF</b>	4	22–400	6–20	1.5	7	8.1		
	5	25–600	7–25	1.5	8	9.2		
	6	32–600	9–30	2.5	10	11.5		
	8	38–1000	12–40	2.5	13	15.0		
	10	44–1000	15–50	2.5	17	19.6		
	12	54–1000	18–60	3.0	19	21.9		
	14	60–1000	21–70	3.0	21	24.0		
	16	66–1000	24–80	3.0	24	27.7		
	18	72–1000	27–90	4.0	27	31.2		
	20	85–1000	30–100	4.0	30	34.6		
	22	91–1000	33–110	5.0	32	36.9		

Ⓢ L<sub>2</sub>F+E<sub>min</sub>. Ⓢ When assembling rod end bearings, check M-Pitch.

### Both Ends Threaded, L Configurable Compact

Part Number	Type	M (Coarse)	L 1 mm Inc.	$\ell$	E	B	(C)
4	40–100	17	3	3	3.4		
	20–39	7	4	3	3.4		
5	40–100	17	6	4	4.6		
	30–59	10	6	4	4.6		
6	60–150	25	6	5	5.8		
	30–59	10	6	5	5.8		
8	60–150	25	8	6	6.9		
	50–89	18	8	6	6.9		
10	90–150	38	8	8	9.2		
	50–89	18	8	8	9.2		
12	90–150	38	10	10	11.6		
	60–129	22	10	10	11.6		
16	130–200	56	10	10	11.6		
	75–169	28	10	13	15.0		
170–300	76	10	13	15.0			

Ⓢ When assembling rod end bearings, check M-Pitch.

**Part Number Example**

**L Standard** Part Number - L  
LBRKN6 - 100

**L & F Configurable** Part Number - L - F  
SLBRFN8 - 225  
SLBRFNF5 - 275 - 20

**Part Number Alterations** Part Number - L - F - (RLC, PMC, PC, QC)  
LBRBFF5 - 100 - 10 - QC

Ⓢ Not applicable to LBRSM and SLBRS

Alterations	Code	Spec.
	PMC	Changes both threads to fine threads. <span style="color: red;">Ⓢ</span> Alteration is available for M10, 14, 18, 20 and 22 only. <b>Ordering Code:</b> PMC M (N) Pitch 10 1.25 14 1.5 18 1.5 20 1.5 22 1.5
	PC QC	